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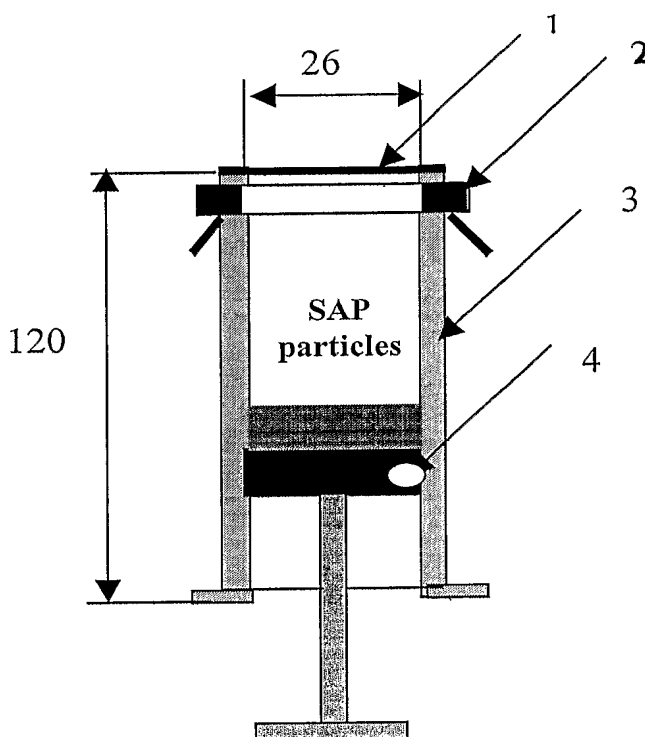
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(54) Title: **BIOCOMPATIBLE, BIODEGRADABLE, WATER-ABSORBENT HYBRID MATERIAL**



(57) Abstract: A biocompatible, biodegradable, macromolecular water-absorbent hybrid material (WAHM), having a three-dimensional configuration with intermolecular covalent bonds and containing free functional groups, said polymer being formed by polymer-polymer intercoupling reaction between a natural water-soluble polymer A or its derivatives having a molecular weight between 20,000 and 300,000Da, and a synthetic polymer B in an adequate ratio wherein the natural polymer A is selected from amphoteric reactants, partially denatured or chemically modified natural polymer, that dissociates in water to form both anions and cations, and which can undergo polymer-polymer intercoupling reactions, and wherein synthetic polymer B is a linear or branched reactive synthetic copolymer having a molecular weight of 50,000 - 500,000Da derived from a vinyl monomer and an ethylenically unsaturated monomer, having a backbone with polymeric subunits covalently bonded to the polymer backbone, the subunits comprising ones with non-reactive and others with reactive chemical functional groups.

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